PRODUCT QUALITY DEFICIENCY REPORT

☐ CATEGORY ☒ CATEGORY 2

1a. FROM *(Originator)* Commander: Port Hueneme Division Naval Surface Warfare Center 4363 Missile Way Attn.: Code: 5A41 (ER) Port Hueneme CA 93043-4307	2a. TO *(Screening Point)* Commander: NAVICP-Mechanicsburg 5450 Carlisle Pike P.O Box 2020 Mechanicsburg PA 17005-0788

1b. NAME, TELEPHONE NO. AND SIGNATURE	1c. DATE	2b. NAME, TELEPHONE NO. AND SIGNATURE	2c. DATE
Mr. Eduardo R. Romo (QAS) 805-228-8495 DSN:296-8495 e-mail ROMO_EDDY@phdnswc.nswses.navy.mil	2/10/99	Mr. D. Sikes	

3. REPORT CONTROL NO.	4. DATE DEFICIENCY DISCOVERED	5. NATIONAL STOCK NO. (NSN)	6. NOMENCLATURE
N63394-99-4007	1/5/99	9G 4030-00-369-3962	Shackle

7a. MANUFACTURE/CITY/STATE	7b. MFRS. CODE	7c. SHIPPER/CITY/STATE	8. MFRS. PART NO.
Cable Moore Inc. 1425 5TH St. Oakland CA. 94623	9R404	N/A	RR-C-271 TY4AGRBCL2

9. SERIAL/LOT/BATCH NO.	10a. CONTRACT NO.	10b. PURCHASE ORDER NO.	10c. REQUISITION NO.	10d. GBL NO.
N/A	SP0490-98-MN248	N/A	N/A	N/A

11. ITEM	12. DATE RECD., MFRD., RE-PAIRED, OR OVERHAULED	13. OPERATING TIME AT FAILURE	14. GOVERNMENT FURNISHED MATERIAL
☒ NEW ☐ REPAIRED/ OVERHAULED	11/97	-0-	☐ YES ☒ NO

15. QUANTITY	a. RECEIVED	b. INSPECTED	c. DEFICIENT	d. IN STOCK
	2	2	2	UNK.

16. DEFICIENT ITEM WORKS ON/WITH		(1) TYPE/MODEL/SERIES	(2) SERIAL NO.
	a. END ITEM *(Aircraft, mower, etc.)*	U.S Navy Underway Replenishment	Various
	b. NEXT HIGHER ASSEMBLY	(1) NATIONAL STOCK NO. (NSN) / (2) NOMENCLATURE / (3) PART NO. / (4) SERIAL NO.	

17. UNIT COST	18. ESTIMATED REPAIR COST	19a. ITEM UNDER WARRANTY	19b. EXPIRATION DATE
$ 12.77	$ Unknown	☐ YES ☐ NO ☒ UNKNOWN	

20. WORK UNIT CODE/EIC *(Navy and Air Force Only.)*

21. ACTION/DISPOSITION

☒ HOLDING EXHIBIT FOR 45 DAYS ☐ RELEASED FOR INVESTIGATION ☐ RETURNED ☐ DISPOSED OF ☐ REPAIRED ☐ OTHER *(Explain in Item 22)*

22. DETAILS *(Describe, to best ability, what is wrong, how and why, circumstances prior to difficulty, description of difficulty, cause, action taken, including disposition, recommendations. Attach copies of supporting documents. Continue on separate sheet if necessary.)*

SEE END OF THIS FORM FOR
ATTACHMENT-1 BLOCK 22 DETAILS

- PQDR Copy To: NMQAO, PHD NSWC: 4M00, 4M10, 4M20, 4M20 (PG) 5A41, 5A41 (AR), QA NIIN File.

23. LOCATION OF DEFICIENT MATERIAL

PHD NSWC Code:5A41(ER) (See Block No. 1a & 1b of this form)

24a. TO *(Action Point)*		25a. TO *(Support Point) (Use Items 26 and 27 if more than one)*	
24b. NAME, TELEPHONE NO. AND SIGNATURE	24c. DATE	25b. NAME, TELEPHONE NO. AND SIGNATURE	25c. DATE

26a. TO *(Support Point)*		27a. TO *(Support Point)*	
26b. NAME, TELEPHONE NO. AND SIGNATURE	26c. DATE	27b. NAME, TELEPHONE NO. AND SIGNATURE	27

368-102
NSN 7540-00-133-5541

STANDARD FORM 368
GENERAL SERVICES ADM
(FPMR 101-26.8)

REPORT CONTROL	N63394-99-4007

28. FINDINGS AND RECOMMENDATIONS OF INVESTIGATION. *(Explain in detail. Continue on a separate sheet of paper, if necessary.)*

12/3/98 - PHD NSWC Code 5A41 Mr. A. Rogers spoke to DSC Richmond I.M Mr. C. Purtle to inform him of incorrect technical requiremen Re: NSN: 4030-00-278-0701 and other shackle NSN's. Mr. E. Romo is requesting DSC Richmond process a DLA Form 339 to impose ISEA technical and quality assurance requirements for all future procurements. As P/N should read "RR-C-271-D type IVA grade B class 2 in lieu of "RR-C-271 TY4ABRBCL2.

1/21/99 - PHD NSWC Code 5A41 Mr. E. Romo spoke to Ms. R. Crawford (QAS DSC Richmond) re: nonconforming shackles. Ms. Crawford faxed Mr. Romo a list of problem shackle's that are in the process of being tested at Navy Lab at Norfolk VA. NSN: 4030- 00-369-3962 CAGE: 9R404 Contract SPO 490-98-M-N248 is listed as one of the four NSN being tested. (Ref: DSCR fax of 1/ 2 of 4).

2/10/99 - PQDR N63394-99-4007 released by E. Romo after Code: 4M20 review. Sent to NAVICP-M PQDR group for processing.

SEE END OF THIS FORM
ATTACHMENT-1

29. ACTION TAKEN

30. RESULTS OF DEPOT SURVEILLANCE

INSTRUCTIONS

1a. FROM (Originator) - Complete name of activity (no acronyms when sending deficiency report across component lines), activity address code (ACC), address including zip code of the activity originating the report.

1b. NAME, TELEPHONE NO., AND SIGNATURE - Provide name, telephone no., (include all available telephone numbers; FTS; Autovon, and commercial) and signature of an individual who can serve as a contact for questions regarding the report and/or to request exhibits or samples.

1c. DATE - Enter date report was signed and forwarded to the screening or action point.

2a. TO (Screening Point) - The originating point will complete name of the screening point activity (no acronyms when deficiency report will be sent across component lines), the activity address code (ACC), address including zip code of the screening point where the report needs to be sent by the originator's activity. For those activities that do not have screening point, leave blank.

2c. DATE - Enter the date of the person finished processing the report at the screening point.

3. REPORT CONTROL NUMBER - Number assigned to report when a numbering system is need. Those activity which are reporting quality deficiencies across component lines and are to comply with the DLA Regulation 4155.24 should reference the report control number as prescribed in the regulation.

7a. MANUFACTURER/CITY/STATE - Name of the manufacturer, the maintenance contractor,

13. OPERATING TIME AT FAILURE - Time item had been in operation since new or repaired when the deficiency was discovered, citing the appropriate performanc (miles, cycles, hours, etc.)

15c. QUANTITY DEFICIENT - Enter the quantity found deficient of those inspecte

15d. QUANTITY IN STOCK - Enter the quantity of material from the same manuf remaining in stock.

17. UNIT COST - Dollar value of the deficient item when known. Not applicable o vehicles to GSA.

18. ESTIMATED REPAIR COST - Unit cost times number of units for replacemen repair costs (including overhead) times number of units for correcting all the deficie reported when it can readily be determined. Not applicable on reporting vehicles to

19. ITEM UNDER WARRANTY - Check if item is known to be covered by contrac yes, provide expiration date.

21. ACTION/DISPOSITION - A check in the appropriate block to indicate the actio requested. When an exhibit or sample is being held, indicate the number of days in provided. (An exhibit or sample shall be held for a minimum of 30 calendar days fr report is transmitted to the action point. Reporting activities are reminded that the p packing and shipping containers are to be held along with the exhibits to facilitate i

or Government activity which last repaired or overhauled the deficient item. For motor vehicles or components thereof, enter name of manufacturer of the vehicle or component, as appropriate.

7b. MANUFACTURER'S CODE - Code of the manufacturer as listed in Cataloging Handbook H4.1 (Name to code), Federal Supply Code for Manufacturers (United States and Canada).

7c. SHIPPER/CITY/STATE - When the shipper of an item is different from the manufacturer, also include the shipper's or supplier's name.

9. SERIAL/LOT/BATCH NO. - Manufacturer's serial, lot or batch number of deficient item as applicable.

10. CONTRACT; PURCHASE ORDER; REQUISITION; GOVERNMENT BILL OF LADING (GBL) NO. - Enter these numbers or any other available transportation document number in lieu of the GBL. Such numbers appear on the container, purchase document and/or the item. It is extremely helpful if these items are furnished when the material was supplied by GSA.

11. ITEM - Check the appropriate block; provide the dates manufactured and received in Block 12, if available.

When none of the items indicate the actions or disposition taken or requested, check "Other" and identify the nature of the action taken or requested in item 22.

23. LOCATION OF DEFICIENT MATERIAL - Address and location of deficient material.

24a. TO (Action Point) - Name, in the clear address, including zip code of the action point to which the report is being submitted.

24c. DATE - Enter the date the report was forwarded to an action point or the date the findings and recommendations were completed.

28. FINDING AND RECOMMENDATIONS OF INVESTIGATION - Include the findings and recommendations for resolution of complaint.

29. ACTION TAKEN - State the action taken to resolve the complaint.

30. RESULTS OF DEPOT SURVEILLANCE - Show results of depot surveillance and planned action (i.e., replacement or repair by contractor, disposal, issue, etc.)

STANDARD FORM 368 BACK (REV. 10-85)

Attachment-1
PHD NSWC Category-II PQDR
Report Control Number N63394-99-4007

BLOCK 22. DETAILS

1. The 1/2 inch screw pin anchor shackle, in accordance with Federal Specification RR-C-271, Grade B, Type IVA, Class 2, is critical. This is due to its use in connecting the UNREP spanwire trolley to the flow thru saddle.

2. The nonconforming shackles are marked "CHINA" on the bow and do not have "HS" (i. e., "High Strength") indication on the pins. Marking pins with "HS", with either raised or stamped letters, is required by paragraph 3.5.3.1.6 of the specification.

3. We tested two similar nonconforming shackle's (7/8-inch) in accordance with RR-C-271 grade B requirements. Proof loads were met and breaking load strength requirements were exceeded. Our samples had only 11 percent ductility vice the 15 percent required by paragraph 3.5.3.1.5 of the specification. This brings into question if the contractor performed sampling tests on any of non-conforming shackles. Sampling test are required by paragraph 4.2.2.2.3 of the specification.

4. As the In Service Engineering Agent (ISEA) for Underway Replenishment, we recommend that all 1/2 inch Grade B shackles marked "CHINA", without the "HS" pin indication, be purged from the stock system. We suggest that Defense Supply Center, Richmond send us a Defense Logistics Agency Form-339 (see block 1a of this PQDR) via Naval Inventory Control Point, Mechanicsburg PA, Code 05422. This will allow ISEA input and clarification for technical and quality assurance requirements.

PHD NSWC UNDERWAY REPLENISHMENT SHACKLE RELATED PQDR's

a.	N63394-99-4006	7/8 INCH SHACKLE	NSN: 9G 4030-00-278-0701	CATEGORY-I
b.	N63394-99-4008	5/8 INCH SHACKLE	NSN: 9G 4030-00-278-0700	CATEGORY-II
c.	N63394-99-4009	3/4 INCH SHACKLE	NSN: 9G 4030-00-278-0669	CATEGORY-II

All Hands,

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U UNCLASSIFIED U
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ADMINISTRATIVE MESSAGE

ROUTINE

R 200601Z JAN 99 ZYB PSN 542432Q20

FM NAVSURFWARCENDIV PORT HUENEME CA//4M00//

TO USS SACRAMENTO
USS CAMDEN
USS SEATTLE
USS DETROIT
USS SUPPLY
USS RAINIER
USS ARCTIC
USS BRIDGE
USS WILLAMETTE
USS MOUNT HOOD
USNS KILAUEA
USNS FLINT
USNS SHASTA
USNS MOUNT BAKER
USNS KISKA
USNS NIAGARA FALLS
USNS CONCORD
USNS SAN JOSE
USNS SIRIUS
USNS SPICA
USNS SATURN
USNS HENRY J KAISER
USNS WALTER S DIEHL
USNS JOHN ERICSSON
USNS LEROY GRUMMAN
USNS KANAWHA
USNS PECOS
USNS BIG HORN
USNS TIPPECANOE
USNS GUADALUPE
USNS PATUXENT
USNS YUKON
USNS LARAMIE
USNS RAPPAHANNOCK

INFO COMNAVSEASYSCOM WASHINGTON DC//03P/03P8//
COMNAVSURFGRU PACNORWEST//N43//

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COMLOGRON TWO//N00/N7//
COMNAVSURFGRU MIDPAC//N43//
COMSC WASHINGTON DC//PM1//
MSC NFAF WEST SAN DIEGO CA//PM1W//
MSC NFAF EAST NORFOLK VA//PM1E//
COMNAVSURFPAC SAN DIEGO CA//N43//
COMNAVSURFLANT NORFOLK VA//N43//
COMNAVAIRPAC SAN DIEGO CA//N43//
COMNAVAIRLANT NORFOLK VA//N43//

UNCLAS //N04700//

MSGID/GENADMIN/UNREP DEPT 4M00//

SUBJ/UNDERWAY REPLENISHMENT (UNREP) SAFETY ANCHOR SHACKLES//

REF/A/DOC/UNREP NWP 4-01.4/-//

RMKS/1. PORT HUENEME RECEIVED SAMPLES FROM TWO SHIPS OF CRITICAL UNREP SEVEN EIGHTH INCH SAFETY ANCHOR SHACKLES THAT DO NOT MEET SPECIFICATIONS AND SHOULD NOT BE USED FOR UNREP. SHACKLES CONNECT THE UNREP HIGHLINE TO THE UNREP PELICAN HOOK. SUSPECT SHACKLES HAVE WORD "CHINA" IN RAISED LETTERS ON BOW AND WERE OBTAINED THROUGH SUPPLY.

2. THE CORRECT GRADE B UNREP SHACKLES REQUIRED BY REF A CAN BE IDENTIFIED BY FOLLOWING MARKINGS:
   A. WORKING LOAD LIMIT (WLL): "9-1/2 T" (ON BOW).
   B. SHACKLE SIZE: "7/8" (ON BOW).
   C. "HS" (ON BOLT HEAD).

3. ONLY USE SHACKLES THAT MEET ABOVE CRITERIA. RETURN NON-CONFORMING SHACKLES TO SUPPLY WITH QUALITY DEFICIENCY REPORT (QDR).

4. FOR HELPFUL UNREP INFORMATION, VISIT THE PHD-NSWC SAILOR-TO-ENGINEER WEB SITE FOR SAFE AND EFFECTIVE UNREP SYSTEMS, AT (HTTP://HELP.PHDNSWC.NAVY.MIL), OR CONTACT US BY E-MAIL AT (UNREP_DEPT@PHDNSWC.NAVY.MIL). THE CDO IS ALSO AVAILABLE 24 HOURS A DAY AT 1-800-PHDNSWC.

5. PORT HUENEME POC IS P. GIACOBBE, (805) 228-8381 OR DSN 296-8381.//

BT

4. WE SLACK SPAN WIRE/HIGHLINE

5. ON MY SIGNAL YOU TRIP PELICAN HOOK

6. YOU RETURN ALL HAND-TENDED LINES

DO NOT CUT/DISCONNECT TENSIONED LINES

The words "EMERGENCY BREAKAWAY" and "DO NOT CUT OR DISCONNECT TENSIONED LINES" shall be in red letters on a white background. Portable type of attachment is recommended for ease of locating. Where one marker each side would not be visible from all receiving ship locations, markers shall be displayed forward and aft each side on the underway replenishment ship (e.g., AOE).

2.2.12 Collision Procedures. During an alongside replenishment, the conning officers of both ships must be alert for the possibility of a collision. If a collision occurs, damage will vary directly with the degree of relative motion between the ships at the moment of impact. Therefore, if a collision appears to be inevitable, conning officers shall take every possible action to reduce relative motion in both the lateral and fore-and-aft directions and decrease the impact angle to minimize damage. Should a collision occur:

1. Institute damage control measures immediately. Maintain watertight integrity and protect explosives and inflammable material from fire.

2. Effect separation with great care to keep damage to a minimum. Good bridge-to-bridge communications at this time are essential.

2.3 STANDARD REPLENISHMENT EQUIPMENT

Equipment items in this section are common to all methods of ship-to-ship transfer. When additional details and dimensions are required, refer to NAVSEA S9570-AD-CAT-010, UNREP Hardware and Equipment Manual.

2.3.1 Wire Rope. Wire rope used in FAS and RAS rigs shall be Type I, general purpose, Class 3, construction 6, 6 by 37 (6 by 29 is within the classification of 6 by 37 and is acceptable), IWRC, extra-improved plow steel (or improved plow steel until replaced), preformed, regular right-hand lay, in accordance with Federal Specification RR-W-410. As ship's stocks of improved plow steel wire rope are depleted, only extra-improved plow steel wire rope shall be reordered for use in FAS and RAS rigs.

2.3.2 Fiber Rope. Fiber rope used in FAS and RAS rigs shall be in accordance with the following specifications:

Note

See NTSM 0901-LP-613-0010 for natural and synthetic rope use precautions, instructions, and inspections.

1. Manila rope — Type M, Federal Specification T-R-605

2. Nylon rope — Three-strand, Specification MIL-R-17343

3. Nylon rope — Double-braided, Specification MIL-R-24050

4. Spun polyester — Double-braided, Specification MIL-R-24536

5. Spun polyester — Plaited, Specification MIL-R-24537.

2.3.3 Shackles. Shackles used in FAS and RAS rigs are anchor shackles, Type IVA, Class 2 and 3; and chain shackles, Type IVB, Class 2 and 3 (see Figure 2-6). Class 2 shackles have a screw pin that passes through one eye and screws into the other eye. Class 3 shackles have a bolt that passes through both eyes and a nut that is threaded onto the bolt. A cotter pin is used to prevent the nut from backing off. Class 3 shackles are called safety shackles. High strength (Grade B) shackles shall be used on all UNREP rigging.

2.3.4 Line-Throwing Devices. Line-throwing guns and bolos are used to pass nylon shot lines between ships. Shot lines are sent across by the delivery ship to all receiving ships, except CVs, LHAs, LHDs, LPHs, and other ships with aircraft on deck. Care should be used to ensure that the shot line does not hit any ship on the other side of the ship to which the line is passed.

CAUTION

Care must be taken when firing shot lines/bolos to Aegis ships to avoid SPY arrays.

2.3.4.1 Bolo. The bolo is hand heaved. It can be used for passing the shot line in daylight and can be used when practicable. The bolo is attached to the end of the

RR-C-271D
AMENDMENT 1
29 November 1995

FEDERAL SPECIFICATION

CHAIN AND ATTACHMENTS, WELDED
AND WELDLESS

The General Services Administration has authorized the use of this amendment, which forms a part of Federal Specification RR-C-271D, dated 25 September 1990, by all federal agencies.

PAGE 5

TABLE I: Change footnote to read as follows: "Steel with carbon 0.50 (maximum) is permitted for attachments or attachment parts, types II, III, V, VI and VII, provided the fabrication is done without welding."

PAGE 18

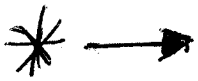
3.5.3.1: Delete and substitute:

"3.5.3.1 General. Grade A shackles shall be forged from carbon steel as specified in 3.1.1.2.4. Pins and bolts for Grade A shackles shall be made from carbon or alloy steel as specified in 3.1.1.2.4. Grade B shackles together with their pins and bolts shall be forged from alloy steel as specified in 3.1.1.2.4."

PAGE 19

3.5.3.1.4: Delete and substitute:

"3.5.3.1.4 Working load limit. The working load limits of shackles covered by this specification shall be as shown in table XVII."



3.5.3.1.6: First sentence, delete "recommended safe working load" and substitute "working load limit (WLL)". Delete second sentence and substitute: "All shackle pins and bolts shall be marked with manufacturer's name or trademark; in addition, all alloy pins and bolts shall be marked with the raised or stamped letters 'HS' on the head."

3.5.3.2: Delete last sentence and substitute: "Except for reference dimensions, the dimensions of shackle bodies and component pins and bolts shall conform to the dimensional requirements specified in table XI through XVI. Reference dimensions are for information."

AMSC N/A FSC 4010
DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

Threads on zinc-coated or self-colored finished shackles shall be not looser than class 1 fit. The male threads of zinc-coated shackles may be undercut, as necessary, so that after coating they will properly mate (not less than class 1 fit) with the standard size female threads.

3.5.3.1.2 Proof loads. Shackles shall withstand the proof loads shown in table XVII (see 4.4.2.2.1) without developing surface rupture or defects that would interfere with serviceability or prevent disassembly of the pin. After proof loading, screw-pin shackles shall be disassembled by hand after the first turn.

3.5.3.1.3 Breaking loads. Without breaking, shackles shall withstand the breaking loads shown in table XVII (see 4.4.2.2.2).

3.5.3.1.4 Safe working load. The recommended safe working loads of shackles covered by this specification are shown in table XVII for information purposes.

3.5.3.1.5 Ductility. Shackles shall be sufficiently ductile so that, when fractured, the fractured member shall show a permanent distortion before breaking. If the pin fractures, it shall show a permanent bend of not less than 20 degrees. If the body fractures, it shall show a permanent mid-shackle set of not less than 15 percent of the original spread between bows.

3.5.3.1.6 Marking. Each shackle body shall be permanently and legibly marked in raised or stamped letters on the side of the shackle bow with the identifying manufacturer's name or trademark, shackle size, and the recommended safe working load. Grade A regular strength shackle pins and bolts shall be unmarked; grade B high strength shackle pins and bolts shall be marked by the raised or stamped letters "HS" on the head. Shackle markings shall be raised or stamped letters or figures of the maximum practical height permitted by the size of the shackle component being marked, but not to exceed 3/4 inch in height by 1/8 inch in relief. Stamping dies shall be of the round bottom, low stress type. Marking location shall not interfere with the serviceability of the shackle assembly.

3.5.3.1.7 Finish. Unless otherwise specified (see 6.2), shackle components shall be zinc coated as specified in 3.3.1.4.

3.5.3.2 Form and dimensions. The form of the respective shackle types and classes shall be similar to that shown on figures 19 and 20 (see 6.2). Dimensions of shackle bodies and component pins and bolts shall conform to the dimensional requirements specified in table XI through XVI.

CHINESE SHACKLES FOR UNREP???

A number of ships have reported receiving several sizes of shackles from the Supply System that are marked "CHINA" and do not meet specifications.

Incorrect shackles are unsafe for UNREP use - especially the 7/8-inch size.

Most critical application: The highline is the most important part of the cargo rig. It must not be allowed to fail in service. The 7/8-inch shackle is mission and safety critical, owing to its use in connecting the UNREP highline to the UNREP pelican hook for cargo and personnel transfer. The highline wire rope assembly is very tightly controlled and inspected at manufacture and in service. Pelican hooks have received a lot of attention recently and are being tightly controlled. Equally important is the 7/8-inch safety anchor shackle used to connect the highline wire rope assembly to the pelican hook. The quality of that shackle must be just as high as the wire rope assembly and the pelican hook. Shackles without the proper markings, particularly those of foreign manufacture, are of unknown quality and must not be used.

The correct Grade B shackles required by NWP 4-01.4 (Underway Replenishment) for UNREP highline service can be identified by the following markings: (All markings must be present on each 7/8-inch shackle)

a. Working Load Limit (WLL): "9-1/2 T" (on bow of shackle)
b. Shackle Size: "7/8" (on bow of shackle)
c. High Strength "HS" (on bolt head)

For all UNREP applications: Use only Grade B (High Strength) shackles that have all the required markings. Bolt heads must always be marked "HS". Shackle size, and working load limit must always be marked on the bow of the shackle. Return non-conforming shackles to the Supply System with a Quality Deficiency Report (QDR).

Working load limit markings for Grade B shackles follow.

Size	Working Load Limit (tons)*
1/2-inch	3.3 T
5/8-inch	5 T
3/4-inch	7 T
7/8-inch	9-1/2 T
1-inch	12-1/2 T
1-1/8 inch	15 T
1-1/4 inch	18 T
1-3/8 inch	21 T

ALL SHACKLES FOR UNREP RIGS/EQUIP MUST MEET THE ABOVE REQUIREMENTS

Table 572-3-2 SPECIFICATIONS FOR ROLLER CHAIN - Continued

Chain Number	Chain Pitch (inch)	New Chain Pitch Tolerance (inch$_{+}$)	Measured Load for Gaged Chain (pound)	Replace Chain When Pitch Exceeds (inches)
35	0.375	0.001	18	0.387
40	0.500	0.001	31	0.516
50	0.625	0.001	49	0.644
60	0.750	0.001	70	0.733
80	1.000	0.0015	125	1.031
100	1.250	0.0015	195	1.289
120	1.500	0.002	281	1.547
140	1.750	0.002	383	1.804
160	2.000	0.0025	500	2.062
180	2.250	0.003	633	2.360
200	2.200	0.003	781	2.578
240	3.000	0.004	1000	3.094

572-3.2.4.24 Pneumatic Motors and Brakes. Inspect pneumatic motors and brakes for damaged, loose, or missing fasteners and support brackets. Inspect for wear in linkage, pins, and cams, and for weakness of springs. Check the condition of brake drums and linings and look for evidence of overheating. Where installed, inspect and adjust airflow valves as necessary. Inspect motors for corrosion, contamination, and proper operation.

572-3.2.5 SHACKLES. New shackles must conform to Federal Specification RR-C-271. In-service shackles must be inspected/replaced as follows. Loose shackles that are routinely disassembled should be inspected prior to every use. Shackles that are installed in a system and that are not routinely disassembled should be inspected upon initial application and thereafter in accordance with system inspection requirements. Shackles shall be visually inspected for manufacturer's marking (i.e., raised or stamped letters with the identifying manufacturer's name or trademark, size, and Working Load Limit). Also check for cracks, corrosion, distortion (bending, spreading, or twisting), and peening/wear (including nicks or gouges). Most likely problem areas are the top center of the shackle body, the places where the pin and body come together, and the pin at the center of its grip. See Figure 572-3-2. If peening/wear are suspect, conduct dimensional checks to determine whether the shackle must be removed from service. Minor defects (cracks, nicks or gouges) may be removed by grinding longitudinally, following the contour of the shackle, provided that the wear limits are not exceeded. Shackles shall be removed from service if any of the following defects are found (or remain after grinding):

a. Lack of marking.

b. Any crack.

c. Significant corrosion (i.e., sufficient to leave "orange peel" texture when removed).

d. Distortion sufficient to make assembly/disassembly difficult without using tools.

e. Peening or wear (including a nick or gouge) that results in minimum dimensions less than those shown in Table 572-3-3 (most likely at the top center of the body and at the center of the pin). The remove-from-service limits in this table represent 10 percent reduction of body diameter and 5 percent reduction of pin diameter.

SHIPS' SAFETY BULLETIN

Prepared by Naval Safety Center
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Fred Klinkenberger, **Writer**
HMCS(SS) Brett A. Darnell, **Layout**

JANUARY – MARCH 2002

Suggested routing should include CO, XO, department heads, division officers, CMC, CPO mess, petty officers' lounge, work-center supervisors, and crew's mess.
Blanks provided for initials following review:

_____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____

Can You Escape After the Lights Go Out?

By ETC(SW) Jeff Miller, Naval Safety Center

We have noticed during ship visits that many emergency escape ladders and scuttles are not painted or marked with photoluminescent material (paint or tape). Paragraph 079-21.7.5 of the NSTM Chapter 079, Vol. 2 (revision 2), *Damage Control - Practical Damage Control*, requires all interior vertical ladders on surface ships to have photoluminescent paint or tape applied to both rails along the entire vertical length, alternating sides with each rung. Mark vertical ladders leading to scuttles that open directly to weather only to ladder mid-points. Mark wrap-around escape-trunk with a band of luminescent material around the ends of alternating rungs. NSTM 079, Vol. 2 (revision 2), provides figures depicting proper application methods.

You need to outline scuttles, hatches, and doors with photoluminescent strips and mark the sides of hatch coamings with photoluminescent strips to indicate the coaming location. Scuttles are outlined to ensure ease of viewing so you can see where the scuttle is and the opening's relative size. This helps prevent running into the scuttle while ascending the ladder.

While these photoluminescent markings might not appear to be of any importance during a ship's normal daily routine, they could save you in an emergency. When you pass through, or by, these escape routes and the lights are on, it is difficult to determine if the routes are marked correctly. Nonetheless, you should take the time to turn off all lighting and see if current markings are bright enough to be effective in an emergency. Go through all your spaces and make a list of those that are compliant and non-complaint and include spaces having damaged or missing markings. Give the list to your division damage control petty officer and schedule the installation of appropriate photoluminescent markings, and install proper markings on hatches, doors, scuttles, ladders, and bulkheads. These are not difficult fixes.

Do not be caught in your space in the dark without the aids to help you escape during an emergency.

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Do Your Shackles Comply With NSTM 572R1?

By LCDR Michael White, Naval Safety Center

We have discovered during safety surveys numerous types of shackles that do not comply with paragraph 572-3.2.5, "Shackles," of NSTM 572, *Shipboard Stores and Provision Handling*. The paragraph requires new shackles to conform to Federal Specification RR-C-271 . In-service shackles must be inspected or replaced as follows:

- Loose shackles that are routinely disassembled should be inspected prior to every use.
- Shackles that are installed in a system and that are not routinely disassembled should be inspected upon initial application and thereafter in accordance with system inspection requirements.

Shackles shall be visually inspected for a manufacturer's marking (such as raised or stamped letters with the identifying manufacturer's name or trademark, the shackle's size, and its working load limit). Also inspect for cracks, corrosion, distortion (bending, spreading, or twisting), and peening or other wear (including nicks or gouges). The most likely problem areas are the top center of the shackle body where the pin and body come together, and the pin at the center of its grip. (See Figure 572-3-2 of NSTM 572). If peening or other wear are suspect, conduct dimensional checks to determine whether the shackle must be removed from service. Minor defects (cracks, nicks or gouges) may be removed by grinding longitudinally, following the shackle's contour, provided the wear limits are not exceeded.

Shackles shall be removed from service if any of the following defects are found (or remain after grinding):

- Lack of marking.
- Any crack.
- Significant corrosion (sufficient to leave an "orange peel" texture when removed).
- Distortion sufficient to make assembly or disassembly difficult without using tools.
- Peening or wear (including a nick or gouge) that results in minimum dimensions less than those shown in Table 572-3-3 of NSTM 572. (Most likely at the top center of the body and at the center of the pin.)

The remove-from-service limits in the table represent a 10-percent reduction of body diameter and a 5-percent reduction of pin diameter.

If you have any questions about shackles, contact the author or Mr. Shaffer with the Naval Sea Systems Command, at (202) 781-3713 (DSN prefix - 326).

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Vertical Package Conveyor Index Switch

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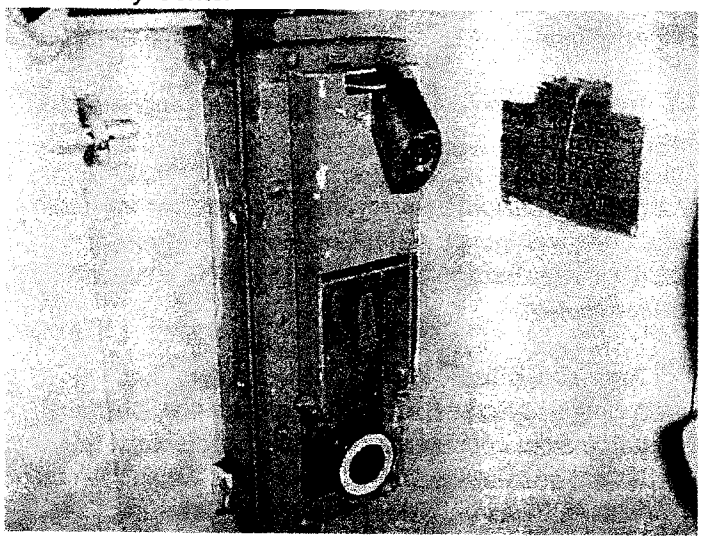

Does your vertical package conveyor index switch look like this? If it does, it does not conform to the requirements of NSTM 572, *Shipboard Stores and Provisions Handling*, with Advance Change Notice (ACN) of Dec. 10, 1998. This ACN to NSTM 572 delineates all the in-service limits of all conveyor safety features. The lockable cover shall always be in the locked position to prevent unauthorized access to the up-down push-buttons and index-continuous switch.

What is ship's force responsibility in complying with the Dec. 10, 1998 ACN? Ship's force must replace old, non-compliant covers, or submit a work request for an outside activity to do so. Meanwhile, if conveyor operation is absolutely required with the switch cover not replaced as per the ACN, the ship must get permission by submitting a Departure from Specifications (DFS) request to the type commander. This DFS will be approved only when operational restrictions or alternative means of attaining conveyor safety cannot be implemented.

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